



View of Salonica from the Bay. From a Photo. by the Writer.

SALONICA: THE ANCIENT THESSALONICA.

By CHARLES GOURLAY, B.Sc. [A.I.],

Professor of Architecture, Glasgow and West of Scotland Technical College.

THE modern town of Salonica is next in importance to Constantinople, in European Turkey. It was first known in history as Therma, from hot springs which were there; but about the end of the fourth century B.C. Cassander changed its name to Thessalonica, after the name and in honour of his wife, who was a sister of Alexander the Great. He also made it a more important place by bringing to it the inhabitants of neighbouring towns.

From the time of St. Paul's visit till the foundation of Constantinople, Thessalonica was the capital of the whole Empire between the Adriatic and the Black Sea, and it has continued to be the capital of Macedonia till the present time. The city has many historical associations, but for the present purpose these need not be dwelt upon, other than to say that its rulers have varied from time to time, being Greek, Persian, Macedonian, Roman, Saracenic, Turkish, and



Venetian in turn, until finally it fell under the dominion of the Turks in 1430, which Power has continued to hold it until the present day. Although it has been so long under the Turkish power, yet the largest proportion of its inhabitants are Jews, many of whom are descended

from fugitives who came from Spain about the end of the fifteenth century, while others came from countries bordering on the Black Sea, and a few claim their descent from the ancient Jewish inhabitants. These Jews, by their variously draped and highly coloured garments, add greatly to the picturesqueness of the many narrow streets and bazaars of the city.

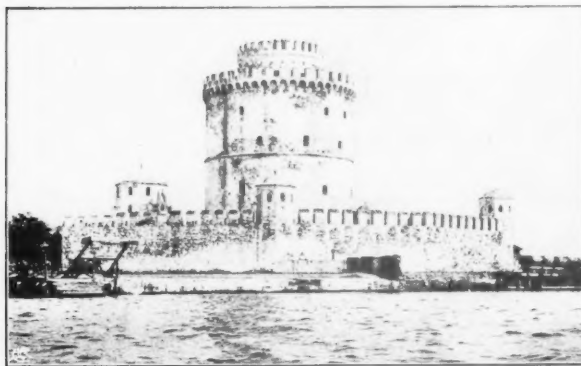
The site of the town is such that its prosperity was guaranteed from its very beginning. Its position on a branch of the ancient Roman road called the Via Egnatia, led to its becoming an im-



portant emporium of commerce. Situated as it is at the head of the Gulf of Salonica, it forms an excellent harbour, and still holds no mean place among the ports of the East. Viewed from the bay, the situation of the city is delightful. On the shore there is a broad busy quay, which is quite modern, and owes its existence to the energy of Mr. Blunt, a former British Consul-General. The site slopes gradually upwards from the sea-level, while the numerous minarets and cypress groves rising from among the closely packed dwellings give it quite an Eastern aspect. The ancient whitewashed walls bound the city, and mark it out to the view

as a frame does a picture, while the citadel with its seven towers crowns the whole. The Greeks rarely selected a site for one of their cities unless there was near at hand a hill which might become an acropolis or citadel. Therefore the very site of the city shows its Greek origin.

The massive city walls are five miles in circumference, with bastions at intervals, and are of Byzantine date, but the lower part contains many fragments of ancient Greek and Roman temples and public buildings, the upper part



WHITE TOWER, SALONICA, FROM THE SEA.

being mediæval. Salonica thus gives, even in its walls, evidence of the antiquity of the city, and of the varied nationalities of its rulers.

In general views of the town, no object stands out more distinctly than the tower, built by Sultan Soleiman about the middle of the sixteenth century, which is at the east end of the



ROMAN TRIUMPHAL ARCH AT SALONICA. VIEW BEFORE RESTORATION.

octagonal bartizan turrets which do not project externally beyond the line of the walls. Within the courtyard there is a square building of purely Turkish type, which is octagonal in its upper stories, and groups very picturesquely with the great White Tower.

Near the eastern extremity of the branch of the old Roman road, now the chief street of the city, there is a Roman triumphal arch still remaining. It is variously named (*e.g.* Arch of Galerius, of Alexander the Great, &c.), but whoever may have been the cause of its erection, it is evident from the sculpture on the piers that it depicts the sieges, battles, and triumphs of a Roman emperor. It was formerly triple, and is built of brick. The two piers which remain retain their sculptured marble facing, showing the treatment to have been astylar. There are four ranges of sculpture, nearly equal in height, divided by carved bands of garlands or rosettes, and at the top the cornice is decorated with acanthus leaves. All this detail is purely Roman. The guilloche enrichment crowning the cornice, which indicates Greek influence, is too small to be in scale with the rest of the carving.

The lowest range of sculpture is of separate figures placed in a series of niches,

quay and forms part of the city walls. This tower is one of the most picturesque objects to be seen anywhere, and is named the White Tower because all its masonry is whitewashed. The main tower is circular in plan, and excepting a thin string-course about half-way up its height and a few small arched windows there is nothing to give it architectural character till the top is reached, where there is a battlement supported on a corbelled-out arcade. Within the outer, an inner tower rises to a greater height, and is finished with slightly corbelled-out battlements. At the seaward corners of the courtyard there are

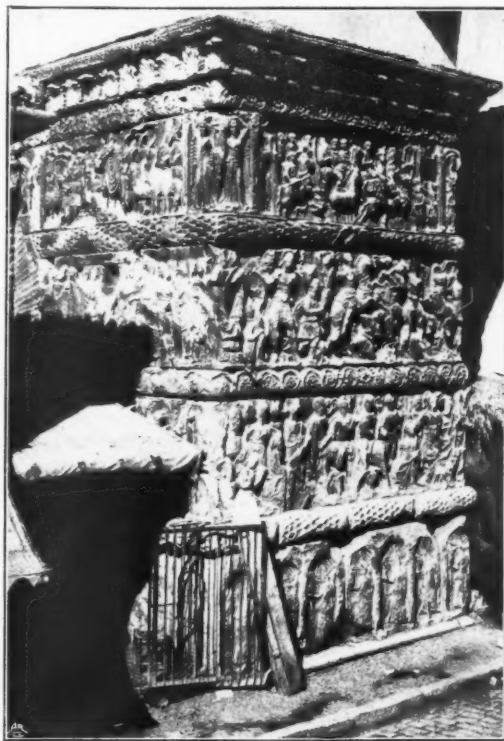


Photo. Zepolji, Salonica.

ROMAN TRIUMPHAL ARCH AT SALONICA. SCULPTURED PIER.

in each of which the shell ornament is rudely carved. In each of the upper ranges the figure sculpture is continuous, but in the top row the corners are specially treated so as to give an appearance of strength to the angle. The brick arch has been restored, and in the process it has been completely covered with a coating of plaster, which, although it preserves the structure, depreciates it from an architectural point of view.

Thessalonica was soon a stronghold of the Early Christian Church, as is evidenced by the visit of St. Paul and by his two Epistles to the Church there. When the Turks became masters of the city they did not destroy but only slightly disfigured the churches in converting them into use as mosques. The disfigurement that then took place was much less than that suffered by similar buildings elsewhere, as, for example, at Constantinople. Hence the preservation to the present day of a series of remarkably complete buildings in which the Early Christian and pure Byzantine styles of ecclesiastical architecture can be fully studied. In the early churches of St. George, Eski Djouma, and St. Demetrius, there may be traced the influence of both these styles.

CLASSIFICATION OF CHURCHES.

The churches in Salonica may be classified as follows :

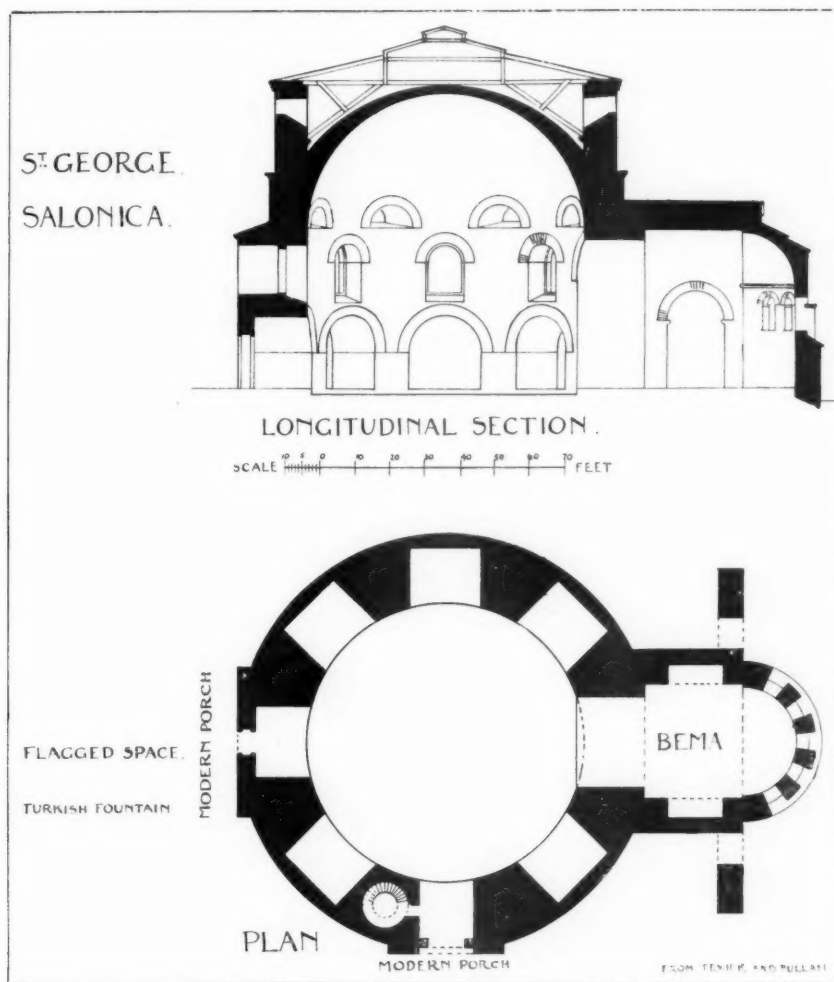
1. The round church of St. George.
2. The basilican churches of Eski Djouma and St. Demetrius.
3. The church of St. Sophia.
4. The later churches: St. Elias (1012), Kazandjilar or St. Bardias (1028), Holy Apostles (eleventh century), and St. Pantelemon.

I.—THE CHURCH OF ST. GEORGE.

The church of St. George stands alone among the churches of Salonica as regards its plan, which consists of a domed circular nave, fully 79 feet in diameter, having a bema and apse projecting from it. There is a western door opposite the bema, and a southern one midway between. At the side of the latter, in the thickness of the wall, there is a staircase which leads to the roof. It is interesting to note that the southern door is wider and evidently more important than the western door. In front of both doors there is a modern Turkish porch. The nave has walls 19 feet in thickness, and, besides the openings already mentioned, has five recesses 17 feet deep and 20 feet 3 inches wide, which are rectangular in plan and barrel-vaulted. The problem as to what purpose these served has not yet been solved. It appears to the writer that they were formed by the Early Christians to receive the sarcophagi of important personages connected with the Church. In support of this suggestion the following passages with reference to Early Christian tombs at Salonica are quoted from Texier and Pullan: "The nature of the soil did not admit of grottos or subterranean chambers cut in the rock. The only tombs that exist are the marble sarcophagi ornamented with sculpture and inscriptions that are to be found scattered about in the courtyards of houses and near the public fountains." And further: "When the inhabitants embraced Christianity they did not abandon their ancient customs; the corporations charged with the care of tombs were dissolved, and the Church took charge of them, but the custom of burying in marble sarcophagi continued, and this was the only method of burial used by the Christians, from the highest to the lowest."

Directly above the doors and recesses there are large semicircular-headed windows which light the interior. Just above these windows the dome springs, and at this point there were eight semicircular lunettes placed midway between the windows, and which, being at a higher

level, must have given an excellent light for the efficient lighting of the very beautiful mosaic with which the whole interior of the dome is covered. This mosaic has recently been restored, and when this was done these lunettes were filled up solid and covered with mosaic, so that their existence cannot now be detected internally.



Thus, the mosaic vault is not now so well lit as it should be, and was intended to be, by the architect of the building; further, the existence of these lunettes proves that the internal surface of the dome was to be treated in colour, which required more light than could be obtained from the windows, though these give sufficient light at the floor level. These lunette openings do not show to any appreciable extent externally, for the filled-up parts have been whitewashed along with the whole of the exterior.

A characteristic of Byzantine architecture is that the dome is a true roof, but in the Early Christian style the dome was covered with a wooden roof and did not show externally. The latter is the case with the dome of St. George. This, along with the wall recesses, indicates the probability that the architect was acquainted with the Early Christian domed buildings in Italy, *e.g.* Santa Constanza, Rome, *circa* 330 A.D., where both of these features are found. This may also be considered as evidence of the early date of this church.

The dome is hemispherical and of brick, as is the whole building. Compared with the dome of the Pantheon, its thickness is not so great in proportion to its diameter. It is thinnest at the apex and gradually increases towards the haunches. The internal height from the floor to the underside of the crown is fully 85 feet. The walls of the upper part of the nave are set back from the exterior, to about 11 feet thick just at the springing of the dome, and to 10 feet above the string-course which encircles the exterior of the rotunda at varying levels.

A vertical mass of wall is carried round the building above the springing of the vault, which by its weight tends to counteract the thrust of the dome. At the top it supports the wooden exterior roof, which is covered with tiles. There are semicircular-headed openings in this vertical wall in order to give light to the space between the extrados of the vault and the wooden roof.

Directly opposite the western door is the opening 26 feet wide for the bema, which is 65 feet 3 inches deep internally. The walls of the bema are 10 feet thick, which thickness is in harmony with that of the upper wall of the rotunda.

Another way in which this church shows its early date is by the omission of vestries, but on either side of the bema there is an arched recess 6 feet deep by



Photo. Zepely, Salonica.

CHURCH OF ST. GEORGE, SALONICA: EXTERIOR FROM THE EAST.

16 feet long, and it is probable these were used in some way or other for this purpose.

The apse has five semicircular windows, the sills of which are fully 16 feet above the floor line. Here again we have an instance of Early Christian influence, for this apse is circular in plan both internally and externally like the Roman apses, while the pure Byzantine apse was circular internally and polygonal externally. The vault of the apse is much thinner than that of the bema, and the thickness of the apse wall is lessened, first at the sill and again at the springing of the semicircular arched head of the windows, carrying out the same principle as in the wall of the rotunda. There is a flying-buttress on each side of the outer end of the bema and at right angles with its walls, evidently built to withstand the thrust of the vaulting of the bema and the apse. The exterior of the church is striking, and expresses in a simple, straightforward manner the internal arrangements. The brick arches over the heads of the openings are seen, but not prominently, owing to the thickness of the coating of whitewash.

The offset in the thick wall is covered with tiles, and higher up the wall is the horizontal

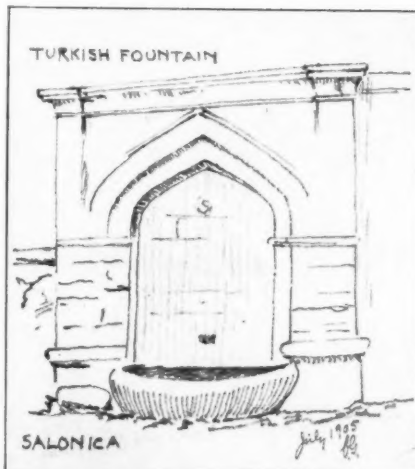
string-course already referred to. The cornice is of stone and the tiles of the roof project slightly beyond it without an eaves gutter. The roofs of the bema and apse have the tiles laid upon the vaulting direct.

With reference to the date of the church, Texier and Pullan say: "Although there is no documentary evidence to prove the date of its erection, there are Christian emblems impressed upon the brick of which it is constructed, showing, without possibility of doubt, that it was erected by Christian builders." This fact, along with the omission of vestries (already referred to), tends to confirm the correctness of the date commonly given to the church, of about 400 A.D.

The site at the present day is an open one, with a cemetery to the east, and a courtyard, bounded by a wall, to the south and west. In front of the western entrance there are a flagged space and a Turkish fountain. Probably this marks the site of the atrium. That an atrium existed is rendered more probable by the existence of the basin of the ancient fountain of ablution, now in use as the basin of a Turkish fountain at the southernmost corner of the site.

There was no architectural ordinance in relief in the interior of the church, for there were no columns or cornices, but instead the mosaic-work had an especially architectural treatment. This may now be seen only in the mosaics of the dome, for all below its springing is whitewashed, except the barrel vaults of the five recesses, which are either decorated with, or plastered and painted to represent, mosaic.

The inner surface of the dome is divided into eight parts, each of which is directly over a recess below. The treatment of the mosaic is varied in each compartment, though it has an architectonic similarity throughout. The ground of the mosaic is gold and the architecture as well, but this latter is outlined with colour and has coloured ornaments upon it. In one compartment there is a two-story mansion with centre and side-wings treated in a distinctly Roman manner, bearing some



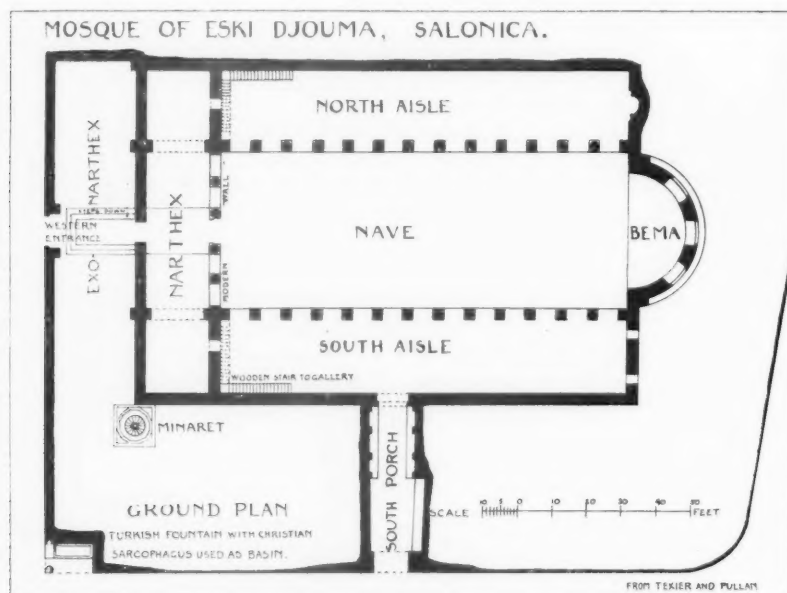
TURKISH FOUNTAIN NEAR ST. GEORGE'S CHURCH.



Photo. Zepdyi, Salonica.

AMBO FROM THE CHURCH OF ST. GEORGE, SALONICA.

resemblance to the rock-cut tombs of Petra, which are of Roman date. In each compartment there is a special feature in the centre, which appears covered over and is richly adorned. A bird in Early Christian art represented the soul, and here there are peacocks and other birds. This great work is the greatest and best in the Byzantine mosaic that has come down to the present time. Just as the elders referred to in the Revelation are represented on arches of triumph, so this mosaic may represent heaven, the abode of the souls of Christians, and the figures in an attitude of adoration the inhabitants thereof. The work is exceedingly fine and remarkably perfect. Each cube is about one-fifth of an inch square, which is much smaller than those met with in Italy, as, *e.g.*, at St. Mark's and San Vitale. This smallness of cube is a feature of the Byzantine mosaic in Constantinople and



Salonica, and it gives a much more refined result than the larger cubes used throughout Italy.

The enrichments of the vaults of the five recesses are entirely Roman in their character. The surfaces are geometrically divided into squares, octagons, or circles, in each of which there is a representation of a bird or fruit. In some cases the surface is simply plastered and painted, probably to represent the true mosaic, which may be hidden by the plaster, as is very probably the case also with the decoration of the bema and apse, which at present cannot be seen owing to the whitewash.

In the courtyard of this church there formerly existed a part of an ambo, another part of which was found in the courtyard of the church of St. Pantelemon. These are now in the Imperial Museum in Constantinople, and from these remnants it is evident that it must have been a magnificent ambo, and suited to a great church such as this one of St. George. Its ornamentation suits the style of the mosaic in St. George's. In fact, not to speak of the general resemblances as regards style, there is the same shell ornament and the

same use of curtains in both the mosaic and the ambo, indicating the probability that it belongs to this church. Each part is of a quadrant shape in plan, with niches in front and on the curve. The junction of the upper part of the side with that of the front has been imperfectly designed. In the front bas-relief shown in the illustration (p. 35), the Virgin is represented seated and holding the Child in a priestly manner, while the other niches have as subjects the Wise Men of the East.

II.—THE BASILICAN CHURCHES.

Of churches of the basilican type Salonica possesses two, both of them admirable specimens of the Early Christian style. The earlier, dating probably from the beginning of the fifth century, is called the Mosque of Eski Djouma (*i.e.* Old Assembly), Djouma being the Turkish name for Friday; and by the Greeks it is called Agia Paraskevi, *i.e.* Holy Friday. It is also called the church of Great St. Mary. In plan it is three-aisled, with inner and outer narthexes and an apse, while, as at St. George's, there are western and southern entrances. The exo-narthex is about 23 feet 9 inches wide, and has a wooden lean-to roof; the inner narthex extends in length the full width of the church by about 18 feet 6 inches wide, and it also is covered with a wooden lean-to roof. This narthex opens directly into the nave, being separated from it by an arcade of five bays, now, however, built up, although the Turks have painted pillars and arches on the enclosing wall, which indicate the real arcades in the solid wall. There is also a door from the narthex into each aisle.

The nave is 119 feet long by 48 feet wide, and terminates in a semicircular apse, which forms the bema. The opening in the eastern wall for the apse is covered by an arch which has a window in each spandril. The aisles, which are 22 feet wide and run the whole length of the church, terminate squarely without chapels at the eastern wall, and are separated from the nave by beautiful arcades, each consisting of twelve monolithic columns at 9 feet centres, with plain classic bases of Attic type, and composite capitals having dossierets which are carved on the side facing the nave only. The practical value of the dossieret is well seen here, for its purpose is to carry the weight of the thick wall brought by the arch upon the capital. The arches are round; but it is interesting to notice how, by plaster and paint, the Turks have given their peculiar pointed form to them. Above each aisle there is a capacious



ESKI DJOUMA, SALONICA : INTERIOR LOOKING WEST.
From a Photograph by the Writer.

gallery which has a wooden floor and is reached by a wooden stair situated at the western end of the aisle.

Directly above the nave arcade there is the gallery arcade, consisting at the present time of massive piers and Turkish pointed arches, which is not the Early Christian arcade, for it had Ionic columns with dossierets and round arches.

There are framed wooden roofs over both the nave and aisles. Unfortunately the Turks have altered this church more than any other in Salonica. They have given the roof of the nave a lined and moulded curved ceiling, at a level so low that it cuts into the small eastern windows in the spandrels of the arch over the entrance to the apse. What between covering up so much with plaster and painting in their own style, the internal effect is not now very

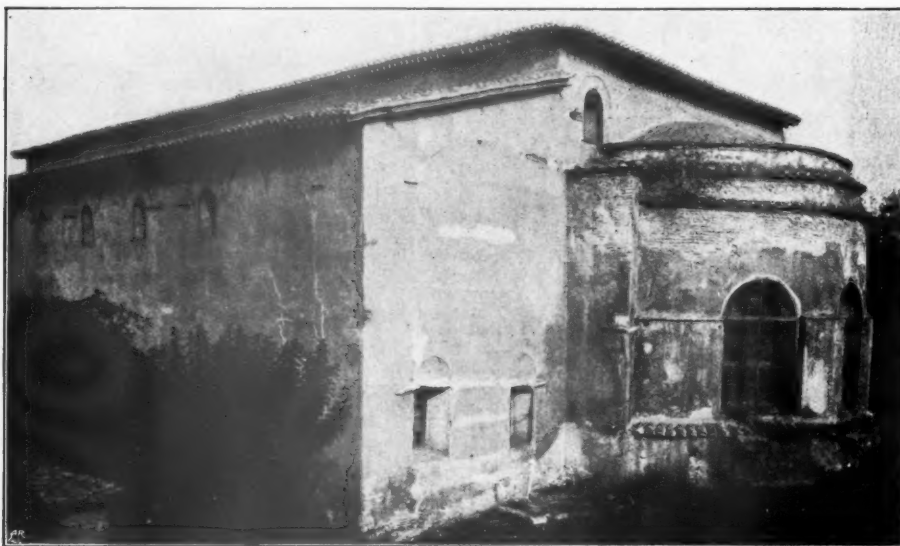


Photo. Zepelji, Salonica.

MOSQUE OF ESKI DJOUMA : EXTERIOR FROM THE EAST.

pleasing, and this is the more to be regretted because the church is beautifully proportioned in all its parts, and a fine specimen of the three-aisled Early Christian basilica.

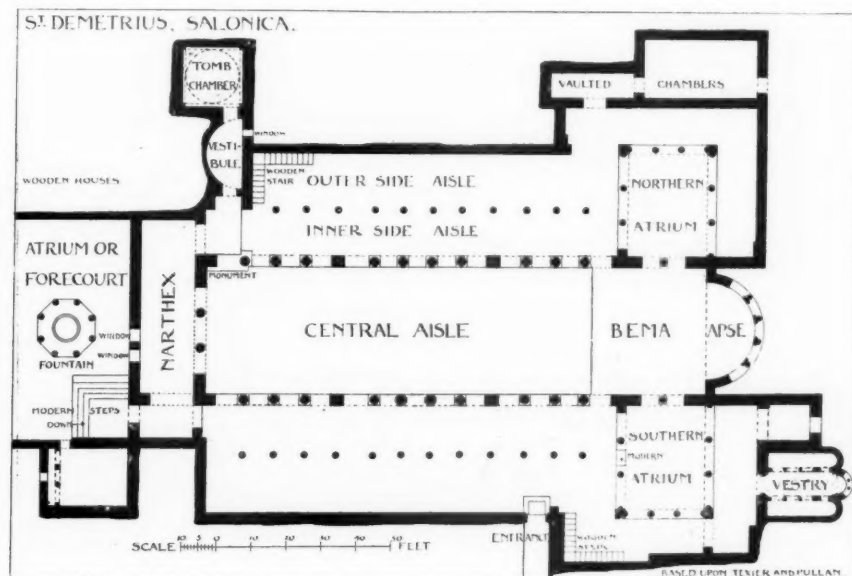
The apse is semicircular, 34 feet wide, and has a spacious effect. It is lighted by three large semicircular windows. At the east end of the north aisle there is a semicircular-headed niche, ornamented with short Ionic columns, which held the sacred vessels. It is now built up. The south porch is of considerable length, and very interesting on account of its stone vaulting.

Externally this church has little of special value, its chief point of interest being its massive appearance, which gives expression to its capacious internal arrangements. The entire building is of brick, and the Early Christian arcading of the gallery still shows, although the windows have been blocked up and new ones of Turkish type inserted. The window in the spandril of the arch over the entrance to the apse is seen in our illustration, and above this the roof has a hipped end. The roofs of nave and aisles are covered entirely with tiles, and have projecting eaves and verges. Externally the apse is semicircular, not

polygonal, and is thinned at the sill of the windows and at the springing of the arches. The cornice is of brick corbelling and typical of the style.

ST. DEMETRIUS.—There is, next, the basilican church of St. Demetrius, which is one of the finest and best preserved of Early Christian buildings. Although damaged by fire on more than one occasion, particularly in the latter part of the seventh century, the influence of the style of the sixth century permeates the building which now exists, so that it should be classed as an example of early sixth-century work. Hence it may safely be dated from 500 to 520 A.D.

The plan consists of central nave with double aisles on each side, making a five-aisled church. The apse is at the east end, and on each side of it there is an internal atrium or transept, which atria are supposed to have been for the use of the clergy. The one to the



north was used for the shrine of St. Demetrius, which was of silver and of great beauty. The galleries cover all the aisles, and extend from the western wall to the atria. There is an external atrium to the west of the church which formerly gave access to the principal entrance, although it is not the case at the present time, as the main entrance leads into the south aisle next to the transept. It is worthy of remark that these three early churches—St. George, Eski Djouma, and St. Demetrius—have all important entrances to the south as well as western entrances.

Taking into consideration the dimensions of this church, the external atrium and narthex are small in proportion to its size, compared with those attached to other churches of this period. The fountain of ablution still stands in the external atrium in a dilapidated condition, but its basin of beautifully carved marble has been thrust out of its place, and now lies unprotected close at hand. In this fountain we have a fine specimen of Early Byzantine work. It is circular and about 15 feet in diameter, and has eight columns with capitals of

varied design, some being Ionic. Resting upon these are the plain brick arches, circle on circle, now all plastered and whitewashed, bound at the springings with bars of wood and iron. The brick cornice consists of three courses. The lowest, a simple projection; the next, a dog-tooth course; and the upper one projecting a little further; while, above all, the tiles of the roof project and form eaves. The interior has a brick domical vault and is tied with wooden beams.

Instead of the usual important entrance doors from the atrium to the church, there is in this instance only an unimportant door at the south-west corner. The small narthex has



Photo. Zepf, Salonica.

INTERIOR OF CHURCH OF ST. DEMETRIUS, SALONICA.

doors to the aisles and an arcade to the nave, consisting of two verde antique columns between piers. It has a wooden ceiling which forms a floor to the gallery.

The door from the narthex to the north aisle leads immediately to the left to a semi-circular domed chamber fully 20 feet in diameter, which acts as a vestibule to the square chamber containing the tomb of St. Demetrius. The semi-dome of the vestibule shows irregular pentagonal forms filled in with brick, all, however, brought to one surface. High up in the eastern wall of the chamber there is a small aperture of the nature of a window, now built up.

The tomb chamber is nearly 17 feet square, and is domed with brick on pendentives. In the east wall there is a blocked-up doorway, directly in front of which lies a flat marble slab having a large Byzantine cross upon it and border round it, which are hardly distinguishable, however, owing to the quantity of candle grease which has been dropped on the slab by Greek worshippers at the tomb. The tomb chamber and its vestibule are both

perfectly dark, and owing to the steep slope of the hill on which the church is built, probably partly underground; hence the tomb chamber is often called a crypt.

In front of the entrance to the tomb of St. Demetrius at the western end of the north arcade of the nave, taking the place of one bay, there is a very beautiful Early Italian Renaissance mural monument dating from 1481, in memory of a Greek named Loukas Spandouni. The carving is alto-relievo and well executed.

The length of the nave and bema exclusive of the apse is about 145½ feet, and the width is 37 feet. Both here and at the Eski Djouma, the floor of the nave is about 4 inches lower than that of the aisles. In the length of the nave there are three compartments caused by massive piers taking the place of pillars in the arcade. The same arrangement exists in the triforium. The central part has four verde antique columns, and the east and west portions three only, of other marble. The moulded bases of the columns are mainly of the Attic type; some have low square plinths and others high ones, according to the length of the shafts of the columns, which evidently were taken from other buildings. But the two central ones of the south side have octagonal pedestals and the other two in the central compartment have square pedestals, with moulded caps and bases.

The capitals are all different, and though of various types—such as the melon, the composite, and the wind-blown acanthus—they are in general Corinthian, and are exquisite specimens of Byzantine design and carving. Above every capital there is a dossier with the cross or labarum carved on its centre. It is worthy of note that in this church all the dossiers are of the same size, and the different heights of the shafts are equalised by varying the heights of the plinths of the bases, as already referred to. The columns with their caps and bases are of marble. The piers and arches of the nave arcades are of brick covered with marble, and the design of the upper part of this marble coating is very remarkable, being of "pietra dura" work. It represents a complete cornice by a species of inlay formed of different coloured marbles, white, red and black, with a few projecting mouldings at the top. Here the effect of modillions, dentils, and the bead-and-reel enrichment is imitated on a flat surface, and while the work is of great interest as a technical feat it cannot be said to indicate a high level of art or to be worthy of being called beautiful from the point of view of design. But between this so-called cornice and the dossier the treatment of the marble lining is admirable. The archivolt has marble of two tints, representing voussoirs, and for hoodmould there is the Venetian dentil so common in Byzantine work. In the spandrels there are squares and lozenges with circles or other forms inscribed, the effect of which is very beautiful.

The columns of the triforium are also of marble and have shallow Ionic caps, mostly incomplete, being only in the roughed-out stage. The dossier is very large and thick with the cross carved on the face. Above, till the clerestory string is reached, the brick arches are treated similarly to the nave arcade, with simple marble surface treatment without pietra dura inlay. Between the pillars there is a marble parapet with the labarum in circular or lozenge-shaped panels, having a moulded cope on top. At the clerestory there are piers and arches symmetrically placed with regard to the treatment underneath, but there is no marble facing, all is whitewashed only. The nave has a framed open timber roof.

The wooden gallery floor over the inner aisles is at the level of the triforium string, that over the outer aisles is at a much lower level, being at about the springing of the nave arcade arches. The columns of the aisles are half as high as those of the nave, and there are upper columns bearing arches which support the inner gallery floor and the gallery roofs.

The bema extends eastward in direct continuation of the nave. Probably the iconostasis stood between the two broad piers which form the termination to the western walls of the atria. A little to the west of this the floor of the bema is raised one step higher than that of

the nave. Separating the bema from the atria on each side at the ground floor level there are two arches with a column between. These atria extend in height to the clerestory, and probably above the ground floor arcading they were quite open to the bema, for the present pointed arches filling the space are Turkish. The clerestory of the bema consists of an arcade of four small semicircular-headed lights on each side. The floors of the atria are on a level with that of the bema, and higher than the rest of the church.

The apse is semicircular both internally and externally, and is lighted by five large windows, at the sill of which a shallow moulding runs round its interior. The semi-dome is vaulted and the roof tiling is laid upon it direct. As the interior of the apse is all covered with whitewash no decoration is visible. In each spandril of the arch at the opening of the

apse there is the window, which is so common in churches of this type.

Externally the apse has a thick lower wall which at the sill of the windows is thinned, and the offset is tiled. The windows are separated by piers with engaged columns of Corinthian type having deep dossierets with the cross carved on them. The semicircular-arched heads to the windows are circle on circle. The wall above the windows is high, and at the eaves there is the usual Byzantine brick cornice, similar to that already described for the fountain of ablution. The whole church is built of brick, with round arches employed



Photo. Zeydji, Salonica.

PART OF MONASTERY OF ST. DEMETRIUS, SALONICA.

throughout, its pavement being of white marble. From the east aisle of the south atrium access is obtained to the skeuophylakion or sacristy, for keeping the sacred vessels. Probably this is a later addition, as such a room is indispensable to a later Byzantine church, but its non-existence is a mark of earlier date. It is about 20 by 18 feet internally, and is divided into nave and aisles having an apse at the east end of each, with a three-light window in the central apse.

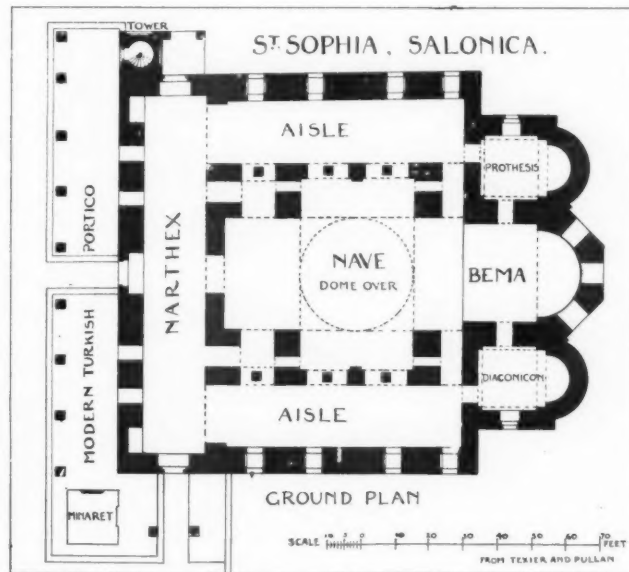
There was a monastery attached to St. Demetrius, and it is hard to say how much of this may remain, for modern houses encroach upon the sacred building, but one beautiful piece of very early carving is to be seen in a small open space opposite the south doorway. It is an arch cut out of a single stone 6 feet in length. Its archivolt is richly carved in late Roman style, and shows Byzantine influence by the foliage and birds in its central band and the peacock in each spandril.

In character St. Demetrius is a very noble basilica. Externally it cannot be properly seen, but viewed internally, to the east or west, it is a great church with its parts in excellent

proportion and its detail beautifully executed. Altogether it expresses its purpose with no lack of emphasis, and it takes rank as one of the greatest buildings of the Early Christian period.

III. — ST. SOPHIA.

Of the purely Byzantine churches still remaining in Salonica undoubtedly St. Sophia is the oldest, but its exact date is unknown, though it is probably of the sixth century. In plan the central part is a Greek cross with arms of unequal length, and a dome of about 33½ feet in diameter at the crossing. At the four corners there are large piers which are not solid, but through which arched openings pass both on the ground floor and gallery levels. These combine with the dome to make a rectangular area of about 80 feet by 65 feet externally. On the north and south sides of this rectangle there are aisles, and to the west is the narthex, equal in length to the breadth of the building. The aisles and narthex are fully 18 feet wide. The north and south aisles are barrel-vaulted in brick, with the courses inclined at an angle to the vertical and not horizontally bonded. But the narthex is divided into five bays, the northernmost and central having round shallow domes; the southern one, a groined vault; and the other two, low oval domes. The bema is barrel-vaulted, having a width of nearly 30 feet, and it projects eastward about 22 feet, being terminated by a semicircular apse of about 25 feet



in diameter, which is lighted by three large semicircular-headed windows. To the right and left of the bema are situated the diaconicon or vestry, and the prothesis or chapel of the credence, both with semicircular apses. These vestries are thought to be additions of a later date than the original structure, for, according to Dr. Freshfield, triple apses are found only in churches erected after about 565 A.D. In plan these vestries are nearly square, and are vaulted with shallow domes. They are each entered by a door direct from the bema and by another from the aisle.

The four arms of the cross are of equal width and are barrel-vaulted. The dome, around which the whole composition is grouped, springs from pendentives, is nearly circular in plan, and has a low drum. Its peculiarity is that the drum is square externally, and there are in consequence heavy masses of masonry at the corners which by their weight counteract the thrusting tendency of the dome. This square part has a bold effect externally, and it is pierced by twelve semicircular-headed windows which light the dome. The dome itself is segmental in section vertically, and shows its true form externally from the crown till



Photo. Zepfji, Salonica.

ST. SOPHIA, SALONICA: DETAIL OF INTERIOR.

a thick abacus. The moulded bases to these columns are very high. At the time this church was erected bells were not used to summon the people to the services. Wooden planks called *semantra* were struck, thereby giving out a sufficiently loud sound for this purpose. At the north-west corner of this church there still remains the tower in which these *semantra* were sounded. It is square at its base, but octagonal above its first story, and at the top has semicircular openings on each face. Its total height is about 55 feet. The staircase in this tower leads to the gallery of the church which extends over its two aisles and the narthex. The gallery has a wooden roof covered with lead and is not vaulted. The church is built of stone and brick, the arches being of the latter; and externally at the eaves there are rich brick cornices of the usual Byzantine type. The central apse is of purely Byzantine form, being polygonal externally though circular internally, but the smaller apses are circular both internally and externally. There is a modern Turkish portico in front, extending the full width of the church, which has eight columns of white and verde antique marbles with purely Turkish capitals and arches.

The whole inner surface of the dome is covered with a beautiful mosaic on a gold ground, representing the Ascension. The figures in the lower part of the composition have trees separating them from one another, while the surface on which they stand is broken up in a peculiar manner, and is supposed to represent stony ground. This mosaic is considered to be of later date than the

the haunches are reached, when its thickness is considerably increased, forming a podium or basement which is brought vertically down to the square part forming the exterior of the drum. At the four corners there are two stone arched buttresses which spring from the angles and reach to the top of the podium, thereby assisting to give stability to the dome at its haunches. The body of the church is separated from the north and south aisles at the end of the north and south arms of the cross by a central pier and arcades of two openings on each side of it. The capitals here are beautiful examples of the wind-blown acanthus type, while the dosseret above them is very thin, and resembles

VIEW OF ST. SOPHIA FROM THE NORTH-EAST.
From a Photograph by the Writer.

building itself, and is probably as late as the eleventh century. The mosaic in the semi-dome of the apse represents the Virgin seated and holding the Child Jesus.

The ambo belonging to this church has recently been conveyed to the Imperial Museum, Constantinople. It was formed out of one block of beautiful verde antique marble, but before being taken to Constantinople it was sawn into two at the junction of the stair with the ambo proper. It is a well designed and very interesting piece of early Byzantine church furniture.

In a devastating fire which occurred in this part of the city in 1891, this church, which was then used as a mosque, suffered so severely that it cannot now be occupied, and is gradually becoming more ruinous. Unless something is done to protect it from the elements, this priceless building with its carving and mosaics will in time become a thing of the past.

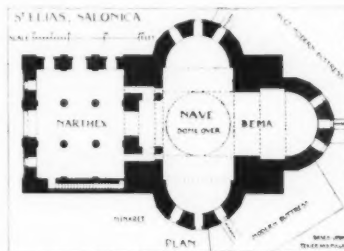
IV.—THE LATER CHURCHES.

Of the churches of the Neo-Byzantine style in Salonica three still remain which all belong to the eleventh century, and, though small, are worthy of detailed notice on account of their difference in plan and general treatment. The first of these to be referred to is St. Elias (the Seraili Djamisi), which dates from 1012. As a rule Greek churches dedicated to this saint are situated on the top of a hill, and this one at Salonica is no exception, for it is at the top of a steep hill in the higher reaches of the city.

The plan is that of a cross: its three arms to the north, east, and south have apsidal terminations, which are semicircular internally and polygonal externally, while the fourth to the west has an exceptionally large rectangular narthex, from which a narrow stair in its south wall leads to a gallery of fully one-third its size, overlooking the bema. A striking feature of the plan is the four great masses of masonry at the angles of the crossing. The whole church, including dome, gallery, and apses, is vaulted, while the four arms of the cross are barrel-vaulted and the roofing tiles are laid direct upon the vaults without an intermediate wooden roof. The dome is at the crossing, and about 18 feet in diameter. It is set upon pendentives, has a very high drum, and though circular internally is of duodecagonal form externally.

In each of its twelve sides there are narrow, tall, semicircular-headed windows, which are now nearly all built up, having only occasional slits for the passage of light. Externally each angle of the drum has a large round shaft running its whole height, and terminating in a projecting coved course at the eaves, above which the roof tiling projects. The dome stands on a square platform, from the four angles of which an arched buttress springs, and supports the drum at about half-way up its height. Against the sides of this platform the tiled roofs of the four arms of the cross abut.

The narthex is to the west, and about 30 by 25 feet internally. It is divided into three aisles by four circular columns having Ionic capitals with dossierets, which support its vaulted roof. The main entrance is directly in the centre of the front, and there is a minor entrance at the north side. On each side of both these doorways there is a window. The staircase to the gallery is steep and so narrow that one person could not pass another. Indeed, in many of these churches the imperfect nature of the provision for access to the galleries is remarkable. The Byzantines do not appear to have desired to give architectural expression externally to



their staircases, but to have hid these within the thickness of walls, or provided only wooden stairs internally. There is a large central and two narrow side arched openings leading from the narthex into the church, directly within which are two circular columns having Corinthian capitals and bases which stand quite clear of the walls. The space between the columns is covered by a large barrel vault, while between the columns and the walls are smaller ones.

At the present day there are no vestries at the east end of this church, but it is probable that small ones formerly existed in what are now huge masses of masonry on either side of

the bema. There is a recess about 15 inches deep on each side of the bema, and extending for half its length next the apse: this recess is carried the full height of the walls and round the barrel vault as well. No surface decoration is to be seen in the interior, because all is thickly coated with white-wash. Although many of the windows of this church are blocked up, yet the light which enters is sufficient to illuminate the interior satisfactorily, owing to reflection from the white walls.

The external form of the apses is that of half of a twenty-sided polygon. Probably each has had three ranges of recesses or windows, but at the present time they are largely blocked up, some of them by the huge sloping buttresses which have been added by the Turks to support the whole eastern end of the church from the centre of the north apse to that of the south. The uppermost range consists of a semicircular headed recess, having two orders of brick arches on seven of the sides of the apse.



ST. ELIAS, SALONICA: EAST APSE AND DOME.
From a Photograph by the Writer.

this building is a particularly rich one, consisting as it does of slightly projecting corbelling, which extends to a considerable height near the top of the wall, while above this are two rows of bricks laid in the dog-tooth manner with intermediate courses which project slightly. Above all, the roof tiling projects, and there is no gutter.

This church is mainly built of brick, all the openings being arched, yet some parts of the walling consist of stone and brick combined in true Byzantine fashion.

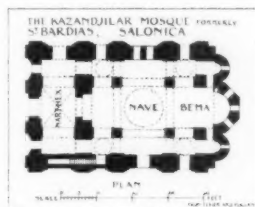
The ruined mosque of Kazandjilar, formerly a Christian church dedicated to the Holy Trinity and also to St. Bardias, dates from 1028. It is a typical example of the Greek cross plan of the Greek church, and shows how in small buildings of that period the central dome

is supported by four marble columns. The narthex is barrel-vaulted, 9 feet wide, and in length is equal to the full width of the church. Directly above the narthex is the gallery, formerly used by the women, which has a dome with a high drum at its northern end. The entrance door is central and has moulded marble jambs and lintel, with tympanum above. There is a window on either side of the door and at each end of the narthex. Three openings lead from the narthex to the church, the central one being larger than those at the sides. The rectangular space forming the body of the church is divided by the four columns which support the dome into the form of a Greek cross, leaving the four angles which are covered by low domes. The south transept has a door to the exterior with moulded marble jambs and lintel. The four columns have beautifully enriched Byzantine capitals of convex outline now thickly coated with whitewash. Upon these rest stilted semicircular arches having a small span to the walls and a larger span to the four arms of the cross, which are barrel-vaulted. The central dome is supported on pendentives and is circular internally. Eastward is the bema with its semicircular apse. Lastly, there are the two side chapels, which are barrel-vaulted and have apses semicircular in plan both internally and externally.

This church is, architecturally, more interesting externally than internally. Even in its ruinous state it shows in its front elevation the eaves following the curve of the internal vaulted roof over the gallery of the narthex. Byzantine architecture is sometimes irregular in the disposition of its domes, as is evidenced in this case by the dome over the narthex not being placed over the centre, but, as already mentioned, at its northern extremity. The semicircular-headed openings in the drum of this dome have hoodmould and eaves in one, the curves of which, being carried up the tiled roof, give the exterior that lobed form so characteristic of this style. The dome at the crossing is octagonal in plan externally, having a column at each angle, from which springs a plain arch on each face, and within which, in a concentric arched recess, there are two ranges of semicircular-headed windows having arches in two orders. The roof of this dome is straight-lined externally, and covered with tiling which is laid direct upon the vaulting and finishes at the eaves with a rich brick cornice. At the level of the sill of the lower range of windows, the dome is brought to the square by means of triangular projections at its four angles, which are covered with tiles. Against this square portion the roofs of the arms of the cross abut in elevation.

The architectural treatment of the elevation of the north transept may still be seen to consist of its doubly recessed large arch, which is subdivided into two semicircular-headed windows with a brick pillar between, while above these, in the spandril, there is a semicircular headed window, all of which are now filled up with brick. The rich sloping cornice of the skew is returned horizontally for a short distance in front and also on the return, while the upper surface of the skew is covered with tiling. The entire north elevation expresses plainly in its form the internal arrangements of the church. The roofs of the central and side apses are all covered with tiling and the apses finish at the eaves with brick cornices; only the central apse is polygonal externally. The church is built entirely of brick, and its dimensions, excluding the apses, are about 53½ feet by 37 externally.

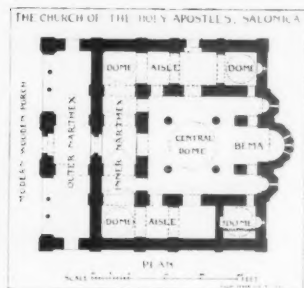
The church of the Holy Apostles, now the mosque of Saouk sou Djami, which is believed to belong to the eleventh century, is of great interest both internally and externally. The plan of the outer narthex, which is about 10 feet wide, is nearly unique. In the centre there is a square-headed doorway, and on each side of it an arcade of three arches, while at each end there is a doorway; the only other narthex having a somewhat similar arrangement is



that of St. Theodore Tyrone, Constantinople. One centrally placed doorway admits from the outer to the inner narthex, which is about 9 feet 6 inches wide, and from each end of which there branches an aisle to the eastwards. These aisles may have been used for the accommodation of the women, there being no gallery for them in this church. The inner narthex with its aisles, which have openings into the nave, makes this plan bear a close resemblance to that of St. Sophia, Salonica.

The inner narthex with the aisles which project from it and the outer narthex are vaulted either with the barrel or groined type of vault, while at the ends of the inner narthex and its aisles there are domes placed on pendentives. The nave takes the form of a Greek cross in plan by the position of the four columns, which support the central dome as in the Kazandjilar mosque. The capitals of these columns are of the Corinthian type without dossierets, and the columns appear slender for the work they have to do, but it must be remembered that they are composed of marble which can bear considerable compression.

Eastwards there is the square bema with its side chapels, all having apses of semicircular form internally. The whole interior is so thickly coated with whitewash that no ornamentation is to be seen. The exterior of the east end of this church is still remarkably perfect, and is one of the most beautiful examples of Byzantine brickwork extant. The three apses are polygonal externally, and their treatment is a highly picturesque one. The bricks are laid in true Byzantine fashion with mortar joints as thick as the bricks themselves. After building the piers and arches in a plain and simple manner, the builders appear to have rejoiced in varying the patterns of the brickwork in a most artistic manner. Here also there is found in the main wall of the church that combination of large stones with two or three layers of bricks, both in the horizontal and vertical joints of the masonry, which is a prominent characteristic of Byzantine work.



This church is probably the finest Byzantine example now remaining of that grouping of four small domes round a central one which became characteristic of Russian Greek churches. Here, however, it is seen in its pristine form, without those bulbous additions which the Russians applied to their domes, and which took away from them the simple dignity attached to this, the noblest of all architectural forms of roof. Besides the grouping, the individual domes are of great interest. The tall drums of the smaller ones, which are octagonal in plan, are entirely of brick and have brick columns at the angles. The doubly recessed opening on each face is semicircular-headed and has for hoodmould a rich cornice which forms the eaves course of the tiled roof. The surface of the roof is therefore not circular, but lobed in form.

The central dome has a tall ten-sided drum and is similar in design to the others. It is brought out to the square at the base of the drum by tiled projections which terminate in an eaves cornice of the usual type. Against this square portion the roofs of the transepts and central aisle abut.

The ends of the transepts are treated in an admirable manner and show clearly how the Byzantines finished this part of their churches. There is first a large arch with doubly recessed jambs, and, following the outer course of the arch, there is the rich eaves cornice, which is segmental in elevation and terminates in a horizontal portion at the ends, but above that the skew takes an ogee form and all is covered with tiling laid on the vaulting direct. The transept windows are divided into three lights by columns, with capitals of purely Byzantine type.



Photo, Zepolji, Salonica.

CHURCH OF THE HOLY APOSTLES, SALONICA.

The church of St. Pantelemon is small, but very interesting. Its external features express very clearly its plan, which is that of the usual Greek cross type. The exterior, however, has been restored and is now all plastered over, which detracts considerably from its architectural value.

There are believed to be many other remains, especially of Christian date, in this ancient city, as, for example, the mosque called Saatli Djami, which is an Early Christian building though now greatly altered, but the buildings herein referred to are known to be the most important.

The older Turkish buildings in the city are usually very picturesque, both in themselves and as they group with their surroundings, but the modern buildings cannot be said to be of great interest architecturally.

NOTE.—The plans accompanying this article are all to one scale to enable comparisons to be easily made between the sizes of the buildings referred to, and attention is directed to the smallness of the later churches. Although the plans have been drawn from those in Texier and Pullan, every one contains corrections in detail.—C. G.



9, CONDUIT STREET, LONDON, W., 24th Nov. 1906.

CHRONICLE.

THE CRÆSUS (SIXTH CENTURY B.C.) TEMPLE OF ARTEMIS AT EPHEBUS.

Publication of Mr. Henderson's Paper postponed.

The Paper on the Ephesus excavations announced for reading at the General Meeting of Monday, the 19th inst., was duly delivered by Mr. Henderson, and was illustrated by a numerous and exceedingly interesting series of illustrations, consisting of Mr. Henderson's original drawings, drawings by Mr. Isaac Cooke, jun., of some of Mr. Henderson's suggested restorations, and lantern slides of photographs specially taken during the progress of the excavations. Publication of the Paper and its illustrations is postponed until after the appearance of the official work dealing with the whole results which is in hand for the Trustees of the British Museum. Mr. Henderson, however, has kindly supplied for publication the following summary of his lecture:—

The purpose of the lecturer was to describe the actual remains found and the fragments which remained of the Cræsus (sixth century B.C.) Temple of Artemis at Ephesus, uncovered and surveyed during the British excavations directed by Mr. D. G. Hogarth in the autumn of 1904 and the spring of 1905; also to place before the Institute his suggested restorations.

He began by stating that the Cræsus Temple was the fourth structure on the site, and that there were remains of yet another (a fifth), called "the Hellenistic Temple," over and beyond it, besides large concrete masses, which were late Roman or early Byzantine, sinking low down into the foundations and rising to about two metres above the Cræsus pavement.

He showed a large plan and sections of the earlier temples, but did not explain them, except

to say that they increased in size as one superseded the other. Yet the Cræsus cella walls easily enclose the last of the three.

The general plan shown gave all the remains which were uncovered, which practically amounted to all that was left of the Cræsus and Hellenistic Temples. Before commencing his survey, the lecturer was instructed by the late Dr. Murray to measure accurately every portion of the Cræsus pavement, and this he believes he has faithfully fulfilled.

He showed how the Hellenistic foundations extended beyond the earlier temple, and showed the position of a brick drain beyond the outermost step, which had been covered by the marble paving of the court; also where the step itself survived, and the large pier foundations to support the podium steps.

He further showed photographs of the Temple as excavated, and described the difficulties with water, which were successfully overcome.

The Cræsus Temple was then taken in detail. The central basis of the three earlier structures (from and near which the treasure was extracted)* was raised and re-used as the centre.

The lecturer pointed out that the foundations were practically double the length of the width, that the walls had separate foundations, but not the columns, and he showed a conduit which passed beneath the west doorway.

Foundations to the steps to the Perron, or western platform, were shown both in section and by a photograph.

The paving was then described, the lecturer showing how it was laid to no pattern, but how beautifully accurate all the joints were made.

The remains of the walling to the cella were then described; how markings were found indicating the position of the north wall, and the impression of the east wall in a mass of concrete; and how by the portions remaining the south wall could be traced from the east cross wall to the south-west anta. This walling was shown to vary somewhat to the walling left of the west wall, which shows the position of the north reveal of the great west portal.

Other portions of the superstructure were a plinth and lower base surrounded by Hellenistic foundations lying to the north-east; a plinth—

* The treasure is on view for a time in the Coin Department of the British Museum, and may be inspected on the presentation of a visiting card.

greatly mutilated—to a column directly south of the south-west anta, and half a plinth lying directly to the south-west of this; and lastly, a large mass of Hellenistic foundations, which was not explored, but which showed that settlements had occurred to the Cresus Temple before these foundations were laid.

Mr. Henderson then described the fragments of architecture which came to light. He began by stating that the outer rank of columns to the peristyle had larger plinths than the inner rank, and that all had a circular lower base about two metres in diameter, formed of three orders of double astragals separated by two filleted scotias.

Many varieties of upper or torus bases were found—these the lecturer illustrated; the most usual type was parabolic in section, with horizontal flutings separated by V-grooves. Another variety was specially pointed out; the upper outline was divided up horizontally by quirked beads, the space between these in the upper half had flutings, but the lower half had reedings, the upper part being concave and the lower convex, which, as shown in a photograph, looked extremely substantial.

No complete drums of columns were uncovered, but 20 various fragments were examined and measured; it was found that 14 of these gave 44, 3 gave 40, and 3 gave 48 flutings to the circumference. He placed the 44 in the outer rank, the 40 in the inner, and the 48 he did not place, as they were of an entirely new type; the flutings were alternately wide and narrow; one torus base was found to be of similar design.

Enough portions of capitals were found for the lecturer to combine these to make an entirely new drawing. He also stated that the batter outwards of the volutes was for the optical purpose of counteracting the excessive foreshortening as seen from the ground, and he mentioned that in Hellenistic times the spiral was contracted horizontally and lengthened perpendicularly for the same optical purpose.

The spiral to the Cresus Temple was found to be a simple unwinding curve which can be easily set out.

A suggested restoration of a rosette capital was shown, which proved to be somewhat different from the one erected in the British Museum; a leaf and dark echinus took the place of the usual egg and dart, and pointed leaves instead of elliptical were given to the rosette, besides other minor alterations.

Nothing which looked like an architrave could be found, but the bed-mould and corona were both important additions, besides several fragments of the large sculptured cymatium gutter.

The lecturer then dealt with his restored plan; he showed the data from which he planned the columns placed round the peristyle and in the pronaos; he then described his restoration within the cella enclosure, how he placed the columns along the facing found in the foundation, and he placed one column (the 127th) in the centre behind the basis, thus making the naos twice the width of its aisles.

He suggested that the 36 sculptured columns could be accounted for by placing them in the front rank of the ends, and one at each end of the flanks, the remainder lining the central walks of the Pronaos and Posticum.

He found that the whole length of the Temple platform was 109 metres 20 centimetres, and the width 55 metres 10 centimetres. He found that measuring from the central axis to the north and south faces of the columns in front of the ante, was the same distance practically (about 12 metres 30 centimetres) as from these faces to the north and south faces of the outermost columns; thus dividing the façades into four equal divisions. He then showed an elevation with the height from the pavement to the underside of the architrave of this same dimension, viz. one-fourth the length of the façade. This height makes the order work out at about 8 diameters. He made the entablature a quarter of this, the pediment rose another three-eighths, and with the surmounting acroteria made the proportion of superstructure to the colonnades come to as 3 is to 4.

The lecturer suggested that the roof was of tiling and timber, which would account for the total destruction of the Temple by the arson of Herostratus.

Discussion of Mr. Henderson's Paper.

Mr. D. G. HOGARTH, Director of the Excavations at Ephesus for the British Museum, said he had been asked to convey the thanks of the Meeting, in the first place, to Mr. Henderson for his extremely interesting Paper and, he would add, also for the extremely able drawings, though he spoke of these with some diffidence in the presence of professional architects. In one way he was the very last person who should have been asked to do this, seeing that for a great part of what Mr.

Henderson had told them he (Mr. Hogarth) was only less responsible than Mr. Henderson. But in another sense—and he thought in the truest sense—he was the very first person who ought to do it, because no one in that room was so much beholden to the assiduity, the energy, and the acumen with which Mr. Henderson devoted himself to this work for the two seasons they were at Ephesus, and for something like a year since his return. Personally he could not be too grateful for Mr. Henderson's services. He would not venture to say much about the architectural work Mr. Henderson had described; a good deal of that had been done of course in concert; but for the technical detail and for all the drawings Mr. Henderson was solely responsible, and the very ingenious restoration he had brought before them was practically his own work entirely. Perhaps he might say a few words, by way of supplement to Mr. Henderson's Paper, chiefly from the historical point of view. It was only right and fitting to pay a tribute to a very distinguished late Fellow of the Institute, Mr. J. T. Wood, who was the first discoverer of this temple. Of the energy, the persistence, and the acumen which he showed in discovering the temple no one could speak too highly. The discovery stood in the very front rank of English archaeological discoveries, and they all had reason to be grateful to Mr. Wood for having discovered this temple, upon a site which no one suspected, under a covering of eighteen feet of earth. It took Mr. Wood rather more than a year to trace his clue, but finally he lighted on the temple; and he did an immense service to those engaged in the recent excavations in having removed about a million and a half cubic feet of earth from the top of the temple. In many ways they who came after him had profited by his labours—they to whom he was the Columbus, who broke the egg, had profited enormously by what he had done. Wood had not only discovered the great Hellenistic sculptures which were one of the great glories of the British Museum, but he also laid bare the pavement of the earlier temple which Mr. Henderson had now plotted and planned. They found that Wood had himself measured with extreme accuracy the remains he had laid bare, and also they found that he had so carefully searched the earth he had removed, that when they re-sifted a part of it they were rewarded with practically nothing at all. But, of course, criticism began where it always did in connection with Wood's work—that is, with

his publication; and if he (Mr. Hogarth) criticised this, he was not doing more than had been done in that very room by another late Fellow of the Institute, Mr. Fergusson, who always said that Wood never did himself and his own admirable work justice in his publication of it. That was true particularly of this early temple—that which Wood called his earliest temple, and which Mr. Henderson had described that evening. Wood laid bare the pavement shown on the plan, and practically all the visible remains that had been brought to light again in the recent excavation except at the extreme western and eastern ends, where he was apparently stopped by the flow of water and the want of sufficiently powerful pumping machinery. For some reason, although he mentioned the temple frequently in the course of his book, he never gave any plan or any measurements of it, nor any drawings of its details as he saw them. He did to a certain extent some time afterwards take a part in the discussion which the late A. S. Murray raised as to the restoration of certain architectural details of the temple; but it was almost true to say that, so far as Wood was concerned, he ignored this very interesting early temple that he had discovered under the Hellenistic. The result was that when they went out in 1904 they had as their first task to produce a plan of those remains which Wood had laid bare between 1870 and 1874, but which Nature had again covered up with a growth of weeds and bushes and such things as were to be expected in a marshy hole eighteen feet in depth in an almost semi-tropical plain. That was Wood's great sin of omission in regard to the temples he had actually found. With regard to his idea that this stratum, the Cræsus stratum of the sixth century B.C., was the earliest on the site, whereas there were remains of three temples underlying it, that error, perhaps, was inevitable at the time when Wood worked and in the way he worked. He was not provided with pumping machinery of anything like the strength that they had had in the last excavation. Thanks to the directors of the Aidin Railway Company, he (Mr. Hogarth) had been able to instal a great centrifugal steam-pump throwing water out of a 12-inch pipe; and with the aid of that, throwing out a small river, he was able to keep the site sufficiently dry to get down to the bottom of it. But a very great deal of the work was merely groping in slime. Another reason why Wood would not have discovered these earlier temples was that, as was always the case at that

time, he proceeded by the method of pitting, that is to say, making round or square pits at certain intervals and testing what was at the bottom of them. He (the speaker) had been digging on and off for twenty years, and the older he grew, and the more experience he got, the more he despised and rejected the method of making pits. No matter what size they are made, one cannot tell what the site contains, in the case of a broken and disturbed stratum below. Knossos was a very conspicuous instance of this. When Mr. Evans and he (Mr. Hogarth) went out there in 1900, they discussed what should be done with a certain long slope, and they decided to make pits in it. They sank these, and came to the conclusion that there was practically nothing below. They got certain fragments when they went down to the bottom, but they did not realise that there was anything more important than the rubbish that had apparently been thrown out from the remains of the Palace of Knossos on the top of the hill. Two years afterwards Mr. Evans found under that hill his chief rooms and greatest halls of the Palace of Knossos—all under that slope.—Mr. Hogarth, turning to the plan on the screen, pointed out the walls of the Cræsus Temple, the outer wall of the temple immediately before the Cræsus Temple, the walls of the temple which preceded that, viz. Temple B, and the pedestals or platforms which represented the earliest temple that existed on the site. As far as he could make out from the architectural necessities, and also from the character of the great treasure of nearly three thousand objects which they found partly in the Statue-Basis foundation as a deposit, and partly also scattered over the area of the primitive temple on both sides, he had come to the conclusion that the earliest temple was founded about 700 B.C. The next belonged to about 650 B.C., or probably a little earlier. The third, which immediately preceded the temple described by Herodotus, was begun about the year 600. There was, of course, no absolute chronology. Most of the scattered broken objects found came into the positions where they were unearched owing to a conflagration which happened about 660 during the Cimmerian raid. The story is that the local tyrant, Lygdamis, invited the Cimmerians, and for his treachery he was bidden to rebuild the temple. That would be Temple B, founded therefore about the year 650 B.C. Its architecture was very poor and its foundations of a very meagre character; it was probably only a hasty restoration and did not last

long. It was probably succeeded before the year 600 by Temple C. These three were called the Primitive Temples, and the last (C) continued until the time of Cræsus. The one absolutely certain fact was that the temple of which Mr. Henderson had spoken was that which was in building during the reign of Cræsus of Lydia, and therefore begun about 550. It is said to have taken 120 years to build, and was probably finished between 430 and 420. It was probably the temple at the dedication of which there was the great poetic contest described by Alexander the Ætolian (*apud* Macrob. *Sat.*). One other point. Wood in his book placed a temple later than the Temple of Cræsus between it and the Hellenistic Temple. Mr. Henderson assumed—and he (Mr. Hogarth) entirely agreed with him—that there was no temple between the two; that the Hellenistic Temple built in the time of Alexander the Great immediately succeeded the temple built in the time of Cræsus. Wood's supposed discovery of remains belonging to any intermediate temple was a mistake, and was not borne out by literary evidence when that evidence is rightly understood. It seemed to be the case that the Cræsus Temple continued to stand until the erection of the Hellenistic Temple. As regards the restoration shown them, as Mr. Henderson had himself indicated, it largely rested upon conjecture. With regard to placing the walls of the cella, that was certain, except in regard to the eastern wall. With regard to the columns there was a considerable amount of uncertainty. The columns of the side colonnades, and perhaps of the façades, were fairly certain; but unfortunately they were not sure how many columns in all there were at any time in the Artemision Temple of Diana. It was true that it was said there were *centum viginti septem*; but the doubt was whether there ought not to be a comma after *centum*, and the passage should not be read as "100 columns in all, 27 given by kings," &c. He was afraid that point would never be solved. There was no punctuation in ancient manuscripts, but a great many people had maintained that the total number was 100 and not 127, as Mr. Henderson considered. Therefore it was entirely a matter of conjecture how many they ought to place in the interior of the cella, and in the pronaos and the posticum. With regard to the height of the columns he was very glad to think they were not more than about 40 feet high. Later authorities told us that the columns of the latest temple, the Hellenistic

Temple, the "Wonder of the World," were 60 feet high or thereabouts—about 62 feet. That was no doubt true. We have authorities which show that the great height of that temple was what impressed the contemporary world. But it was difficult to believe that this Cræsus Temple was anything like so high. If they were to follow anything like the ordinary Greek canon of proportion they could not get columns more than 40 feet high, that is, eight and a half times the diameter of the drum. The earliest sculpture which ran along the parapet was on a very small scale: to put it up at an elevation of 60 feet seemed nothing short of a crime, and to put it up to 40 feet would render it indistinct, but not absolutely impossible. He could not believe that that delicate and beautiful work to be seen in the first Archaic Room of the British Museum could ever have been put up at a height of 60 feet above the ground. He had very little doubt, therefore, that Mr. Henderson was right in giving a total height of 40 feet to these columns. With regard to the arrangement of the sculptured bases—there were sculptured bases in the Cræsus Temple as well as in the Hellenistic—that was purely conjectural. Also the arrangement of the capitals was purely conjectural. It was quite possible that the volute columns and the rosette columns did not exhaust all the forms, and that there was something like the same variety that was seen in the great Temple of Didymi. Apparently the Asiatic Greeks preferred variety in certain more conspicuous architectural features to that uniformity which was considered *de rigueur* in Greece; but whether the rosette capitals would have been in the middle and the volute at the end one could not say. He should very much prefer personally to have had the volute capitals in the place of honour rather than the rosette, but that was purely a matter of taste. So, again, the enriched torus bases which Mr. Henderson put in the centre of the façade were conjectural: they had no remains of them. All that kind of detail he hoped members of the Institute would some day study with critical and with sympathetic eyes in the book the British Museum was about to publish, and in the atlas of drawings, which would include all the drawings round the room. The work, he hoped, would appear before a late date in next year. He had only one other thing to say which Mr. Henderson had not said, viz. that the beauty of the material and the work of the Cræsus Temple was very great; it was very much

more so than in the Hellenistic Temple, which ranked among the Seven Wonders of the World; it was much more delicate and fine. It was curious that this temple, which was of the most exquisite work, should not have had the fame of the temple after it, which was considerably inferior to it in details and in execution. It only showed that ancient taste in what was considered to be a great artistic period could be affected most strongly by enormous size, by mere grandiosity. For apparently the chief feature of the Hellenistic Temple was a certain grandiosity. At any rate, he thought that the labour they had devoted to this Cræsus Temple—Temple D—was justified in that it must have been one of the finest, as it was one of the earliest, of the great Ionic temples.

Mr. CECIL SMITH, LL.D. [H.A.], Keeper of Greek and Roman Antiquities at the British Museum, said he should like to express his entire assent with what had fallen from Mr. Hogarth with regard to the excellence of Mr. Henderson's work which he had shown them that evening. He was sure that all those drawings and lantern slides which they had seen reflected the greatest credit on the energy and industry of Mr. Henderson, and would provide for students of architecture a highly important fund of new material for the study of that extremely interesting earlier period of the Ionic order. He should also like to add that he thought their thanks were due to Mr. Hogarth for the excellent address he had just given; and he should like them to know—what Mr. Hogarth had not mentioned himself—the nature of the difficulties under which all the work had been accomplished. Nobody who had not been actually on the spot could realise how serious were the difficulties Mr. Hogarth had had to face. Nearly every step they had to take in excavating the wonderful series of ornaments temporarily deposited in the British Museum involved continuous groping in fetid slime. In Mr. Hogarth's case it had the effect of laying him up in Smyrna with a serious illness; indeed, that sort of climate and that sort of work were likely to be of permanent injury to the health of anybody working there. There was a particular appropriateness in Mr. Henderson's Paper being read in that room, because the first important discussion with regard to the Temple of Ephesus was initiated by Fergusson in the same room some twenty-four years ago; and his predecessor in the position he now held—Mr. A. S. Murray—in 1895 read a valuable Paper on the sculpture and architec-

ture of the Cræsus Temple.* Perhaps he might be allowed to say a word with regard to the inception of this latest excavation. Mr. Wood finished his excavation about the year 1874. The site was the property of the Trustees of the British Museum, and it had always been something of a reproach to British archaeology that that site should have been allowed to remain so many years in the condition in which Mr. Wood left it. About the year 1895 the Austrians, who had been excavating in the actual town of Ephesus, made an application to be allowed to continue Wood's work on the site of the temple; but Mr. Murray, very rightly he thought, decided that, as English archaeologists had begun the work, they ought to finish it, and before his death he had arranged with the Trustees of the British Museum that an excavation should take place. Those plans were interrupted by his death; thus it fell to him (the speaker) to carry out the arrangements, and in the autumn of 1904 Mr. Hogarth and Mr. Henderson went out, and the results of their work were now before them. With regard to the extreme similarity in the main features of the architecture of the Cræsus Temple with that of the Hellenistic, and with a view to their more complete study, he had decided in the British Museum on a scheme which he thought they would approve. Hitherto the remains of the Archaic Temple had been exhibited in the Archaic Room, while those of the Hellenistic Temple were in the Ephesus Room, two rooms away. By the rearrangement he proposed the whole remains of the Artemision would be put on one side of the Ephesus Room, and on the other side would be grouped the whole of what we have of the Archaic Temple; so that students in future would be able, without going from one room to another, to compare the similarity of the architectural features of the Cræsus Temple with those of the Hellenistic. The outside public perhaps would at first feel rather disappointed that not more of the details of architecture had been found in these excavations to clear up the knotty points which had always interested us with regard to these temples. Take, for instance, so very questionable a point as the superposition of a sculptured drum on a sculptured pier; and, again, the position of the details of the *θρυγκός*, the sculptured cornice running round the parapet of the temple. But when we realise what the present state

of the temple is; when we know that the Hellenistic architects absolutely quarried and re-used most of the foundations and fragments of architecture of the Cræsus Temple; when we realise also that on this site of the temple for many hundreds of years afterwards, certainly starting from about 262, when the Goths destroyed the Artemision, quarrying was going on; and when we appreciate the difficulties of disentangling the fragments from the masses of concrete underneath the water, he thought there was no difficulty in explaining why it was these problems have remained even now, at the end of our present excavation, still difficult to solve. Unfortunately, he believed they never would be further solved now. Mr. Hogarth and Mr. Henderson had done the utmost that remained to be done. When this excavation was first started, they had a vision of leaving an absolutely clean site—that is to say, leaving the pavement of the Hellenistic Temple, with the remains of the pavement of the Cræsus Temple below, as clear as they could be made for all future visitors; but anyone who knew what the site was like would see at once that that was impossible. As Mr. Hogarth told them, the water which was pumped out each day returned during the night, and it took only a moderately wet season to leave a deposit of some two or three feet of water over the entire site. After the excavations were finished, complaint came to the Trustees of the British Museum that there had been a considerable epidemic of fever in the district. As a matter of fact this fever was due, not to the excavations, but to the very heavy rainfall which had taken place the season before. At any rate, the long and short of it was that the local officials insisted that the excavation area, which was a stagnant pond then, must be filled in, and consequently this had had to be done; so that future visitors to the site of the Artemision must not expect to see a plan anything like that which Mr. Henderson had drawn. The whole site had been covered in, owing to the exigencies of the local officials, to a height of some sixty centimetres; so that anybody now visiting the site would not see the pavements at all. But he thought that they might be satisfied in feeling that everything that could be done had been done, and that it would never be worth while to excavate any further on that site.

THE CHAIRMAN said he was sure they would all unite with the proposer and seconder of the vote of thanks in acknowledging their indebtedness to

* JOURNAL R.I.B.A., 21st November 1895.

Mr. Henderson for his very interesting Paper, and to Mr. Hogarth and to Mr. Cecil Smith for their remarks on the subject. Speaking for himself, he thought they should probably have been able to understand and appreciate Mr. Henderson's Paper more clearly if Mr. Hogarth's remarks, or some of them, had been made first. He personally had had some difficulty in clearly following Mr. Henderson's description; but Mr. Hogarth had cleared up some of the doubtful points; and probably when the Paper was read in the light of the whole discussion, other doubtful points would be solved.

British School at Rome.

At the annual meeting of subscribers to the British School at Rome, held on the 20th inst. in the rooms of the Society of Antiquaries, Burlington House, Mr. Bryce, M.P., Chief Secretary for Ireland, who presided, congratulated the subscribers on having secured the services of Mr. Thomas Ashby as Director of the school, and urged on the friends of the school the necessity of doing all they could to interest others in the work being done in Rome. There was a great difference between the study of natural science and that of archaeology and history. The interest in new discoveries of science would become fainter and fainter as time went on, because these new discoveries, which were such startlingly brilliant novelties to us, would before long become as familiar as the properties of steam. On the other hand the interest of antiquaries in the antiquity and history of those early nations to whom we owed so much would, he thought, with the progress of the world, become always greater, because the older the world grew and the further it moved from those primitive ages the more curious and singular would they appear to be, and the more lively would our interest be in the earlier stages of our own civilisation. It was a matter of the highest interest to investigate the history and antiquities of the nation which had worked so much upon our own lives and our own country. Rome was a most valuable place for the making and training of an historian. Nowhere else in the world, he thought, was there so much history which could be said to lie under the eye as there was in Rome and its neighbourhood. It had had a continuous existence. Egypt began earlier, but there were great blanks in Egypt. In Rome the classical age of the Republic and the earlier Empire, the Mediæval age and the Renaissance age, every one of these threw light upon the other. There was hardly a building in Rome that was not associated with some remarkable historical event. Any one who looked out over the Campagna and thought of all that it had seen received a lesson in history which was worth years of reading.

British School at Athens.

The Report of the Managing Committee of the British School at Athens for the past session states that Mr. Ramsay Traquair [A.] was appointed to an architectural studentship of £100 on the understanding that he should devote three months to a study of the Byzantine and Frankish remains in Laconia and three to making plans and drawings of Byzantine churches in Constantinople under the direction of Prof. A. van Millingen. Mr. Traquair spent the first month of his stay in Greece in investigating the Romano-Byzantine fortifications at Sparta, and afterwards worked at Geráki, Monemvasia, and Passavá. He then visited the site of Maina, and travelled up the western coast of Laconia to Kalamáta. In a later tour, rendered possible by a donation given for this purpose by Sir Rennell Rodd, Mr. Traquair visited most of the Frankish castles in northern and western Peloponnesus, making a complete plan of Castel Tornese, and of others such photographs, sketches, and notes as seemed necessary for comparison with the Laconian fortresses. Mr. Traquair's work at Constantinople included the measurement and photography of twenty churches for Prof. van Millingen's forthcoming book.

The Committee are appealing for £1,500 to enable work to be continued on the site of the Temple of Artemis Orthia at Sparta. Excavations were begun last spring, and the discovery of the town walls proved that the site of the ancient city was not confined to the Acropolis, now surrounded by late Roman fortifications, but extended as far as the bank of the Eurotas. The bank of this river furnished the most interesting and most important archaeological find of the year in Greece—viz. the Shrine of Artemis Orthia, the savage goddess at whose altar the Spartan youths underwent the ordeal of scourging. Trial-trenches were sunk, and such rich remains of the archaic period of Greek art came to light that the complete excavation promises a greater mass of such finds than has ever been found before in Greece. The finds include innumerable lead figurines, carved ivories, pottery, bronze brooches and ornaments, and a remarkable series of clay masks, many of them painted and modelled with extraordinary freshness and vigour. In this same archaic stratum the trial-trench uncovered walls and roof-tiles, some of them painted. The full excavation will possibly give the means of reconstructing in some measure the earliest temple on the site.

The Committee appeal to the friends of Greek studies for subscriptions to enable the British School at Athens to maintain its high place among the other national schools of archaeology in its work of increasing our stock of knowledge of Greek history and Greek art. Subscriptions to the Laconian Excavation Fund should be sent to the Hon. Treasurer, Mr. Vincent W. Yorke, M.A., Farringdon Works, Shoe Lane, E.C.

Mr. Bosanquet has resigned the Directorship of the School to take up the post of Professor of Archaeology in the University of Liverpool. Mr. R. M. Dawkins, Fellow of Emmanuel College, Cambridge, is the new Director.

Egypt Exploration.

In a paper by M. Edouard Naville [*Hon. Corr. M.*] read last week before the Egypt Exploration Fund, the author called attention to the results of the campaigns of the last three winters. They had unearthed, he said, the oldest temple at Thebes. It had been most wantonly destroyed; already in old times, during the reigns of the Ramessides, the fine material out of which it was built had been carried away for other constructions; of the delicate sculpture, which revealed an art very little known before, only fragments had been collected; nevertheless, they could still trace the architectural structure of the building and recognise in it a form of sanctuary of which there was no other specimen in Egypt. In one way, perhaps, we have derived advantage from the fact that these remarkable sculptures of the XIth dynasty were so fragmentary, since had it been otherwise we should never have seen any specimens of this peculiar style of art in England or had any to distribute to museums; had the sculptures been perfect and in place they would have had to remain at Deir-el-Bahari. In the old empire the funerary monument of the king was a pyramid; an artificial mound sometimes of huge proportions, which concealed the mummy, and near which was the temple where the king instituted his own worship, which was to be continued after his death. In the new empire the mummy does not rest under a pyramid; it is hidden in a chamber cut in the rock sometimes at the end of a long passage, on the walls of which are depicted the scenes of the other world in a manner such as would be conceived only by the wildest imagination. As for the funerary temple, it was a long way distant from the tomb—it was on the verge of the desert, where it was easily accessible. There the king established his own worship when he was still alive, in conjunction with that of the gods, and used also the walls of the building as a book on which he related the chief events of his life. The first in date of these was that of the Queen Hatshepsu, at Deir-el-Bahari, a large temple built in terraces which was long thought to have no parallel in Egypt, and the clearing of which, except one-third done by Mariette, was the work of the Egypt Exploration Fund. Now they had a building of a new style which participated of both the older and the younger types. They found what they supposed to be the remains of a pyramid, but it was not isolated, it did not stand by itself, and it did not conceal a mummy. It rose on a platform, out of a columned hall which surrounded it on all sides; and as yet they had

not discovered the tomb for which it was built, and which it seemed to indicate. The access to the platform on which the pyramid stood was, as in the temple of the XVIIIth dynasty, by a ramp, on both sides of which were colonnades protecting the sculptures of the supporting walls. It was a matter of congratulation that this, the oldest temple of Thebes, and the only one of the Middle Kingdom which was at all well known, was in such a good state of preservation as it was. At the time of the XVIIIth dynasty the temple of Mentuhotep was still the object of a respect so great that the great king of Egypt Thothmes III. made a sanctuary to the goddess. The judgment of experts was that the shrine contained the finest specimen of animal sculpture that Egyptian antiquity had left us.

Finds have been made at Oxyrhynchus of literary papyri on a scale far exceeding discoveries of any previous season. The texts discovered comprise new odes of Pindar, parts of the lost tragedy of Euripides on Hypsipyle, parts of a new Greek historian, and of a commentary on the second book of Thucydides, the second half of the *Symposium*, and portions of two manuscripts of the *Phædrus* of Plato, of the *Panegyricus* of Isocrates, and the speech of Demosthenes against Bæotus. These manuscripts all belong to the second or third century.

John Evelyn.

Mr. S. W. Kershaw, F.S.A., writes: "The remarks of the President of the R.I.B.A., in his Opening Address, as to the great diarist, lead me to state that this year is the bi-centenary of his death, which occurred 27th February 1706. A new edition of the *Memoirs* is appropriately just published (Macmillan), with a learned preface by Mr. Austin Dobson. The three volumes are enriched by many illustrations and reproductions from old prints of places and people. To Evelyn's artistic and antiquarian tastes we owe the preservation of the Arundel Marbles, now in the University Galleries, Oxford. His minute notes of many seventeenth-century buildings in London throw much light on the architectural taste and style of that time, and are replete with references. By them we repicture old London, in many ways a more attractive city than to-day. His visits to St. Paul's with Sir C. Wren and others just before and again after the Fire of 1666 are historic pages indeed. His keen perception of arts and letters would alone make his fame, while the colloquial and fascinating style of the Diary will always attract the student of past times and events and the connoisseur of artistic treasures. I am glad to note that the recently formed John Evelyn Club at Wimbledon retains the memory of this writer, and has for its objects the preservation of any historical or local landmarks likely to be obliterated."

Paper on "Picture Galleries."

The gap left in the programme against the General Meeting of 22nd April is now filled up, arrangements having been made for a Paper on "Picture Galleries," to be read by Mr. A. W. Weissman, architect (of Amsterdam). Mr. Weissman was present in England last July as a member of the Congress, and speaks and writes English well.

The Public and Architecture.

Mr. Hippolyte J. Blanc, R.S.A. [F.], in the course of his opening address as President of the Edinburgh Architectural Association said: "What we architects require is co-operation among ourselves, and a fuller and more accurate knowledge on the part of the public who criticise us. There are no works more unsparingly criticised by the public than those of an architect. Patrons of architecture are more numerous and less capable than are those of painting. Paintings are the property of a few, and the general public take little to do with the school of painting. But there is nothing that the 'man in the street' makes claim to know more about than architecture. The architect is, in a manner, a vassal to his client, who may criticise and even compel him to the perpetration of the ugly and incongruous. Architecture ought to be made a part of a polite education; but if the public has no opportunity, either at school or in after-life, of being properly directed in the most interesting and most useful study of architecture, how can an intelligent appreciation of architects' labours be looked for? Do men reap where they have not sown? Wherein, then, is the remedy? It should be in the infusion of a love for architecture at school. General knowledge is most essential, but particular knowledge of architecture is a valuable companion all through life, in one's daily walk and travel; for go where a man may, he is confronted with architecture in some phase, and for lack of knowledge, though he has eyes, he sees not. Instead of schools devoting so much time during autumn, winter, and spring to the sport of football, could not this be varied by a few Saturdays being given up, under special experts, to an examination of some historic old building? By so sowing the seeds of elementary knowledge of the purposes of architectural forms and details, one could look for a new generation, qualified to think and act in sympathy with architectural progress. A writer has said: 'The true end of life is not to be found in its amusements; it is in the daily task of life.' One of the noblest ends of education is to learn the proper use of leisure. It is essential to elevate Work, not Pleasure. The only absolutely reliable source of knowledge is in contact with the real. A subject to be studied cannot be taught so efficiently from wall diagrams, as from contact with the actual building, the flower, the tree, or

the rock. In thus suggesting for youth at school a scheme of nature studies and visits to old buildings, there would be to them a union of advantages—namely, bodily exercise, with mental improvement, in a most useful direction. The British public ought to be made to realise its own present incompetency in opinions upon the art of architecture, and no doubt this school will afford good opportunity. As architecture is the Queen of Arts, without which Painting would have no panel and Sculpture no pedestal, it may not seem unreasonable to expect that this Association of Architects should have an opportunity afforded it of submitting suggestions in regard to the new school here when details are being considered. As Sir James Guthrie, the able President of the Royal Scottish Academy, has stated, 'There is too much a medley of conflicting teaching interests at present, which should be co-ordinated if art teaching is to be placed on a proper footing in Edinburgh.' For the architect alone there are great needs. The course of study required for the Royal Institute examinations has presently to be pursued in a disjointed method in the absence of a concentrated system of classes, such as are in full operation in Glasgow and London. If to the great list of studies enumerated by Vitruvius for the architectural student we attach the additions by the French Academy, and of the later modern sciences, there is enough to establish a strong claim for municipal help in the equipment of an art school. Here, in Edinburgh, youths approach an architect's office direct from school, often with little special ability, and with too limited education. In some cases five years' pupillage are exhausted before they realise their unfitness to keep abreast of the requirements of architectural practice. In Germany, pupils enter offices only after a period of university training, and, during pupillage, class-work and office-work proceed concurrently towards the passing of a qualifying examination. There is, in this, the advantage to a student of realising his position and deciding his course before it is too late to change. That office practice and class work should proceed concurrently no one will dispute. Let us earnestly hope the foundation of the new art school, which now has attracted the attention it deserves, will not be long delayed; and further our hope is that its teaching equipment will be such as will supply a full measure of the clamant needs of the architectural student. It may be reflected that those older masters, who contributed so much to our cities' monumental architecture, had no special technical schools in their midst for systematic study. But their scholarliness had to be acquired nevertheless. Pupillage (entered after a complete academic course) extended in their day to seven years. Office hours were long, and distractions outside were few. This secured concentration upon their daily work. At the close of their pupillage, three years of foreign travel with sketch-

book, tape-line, and foot rule completed the sum of equipments for an architect. In less than half the time formerly given to training, present-day students have to cram and swallow a whole encyclopædia of science knowledge, add to it a mastery of the history of architecture, be expert at drawing, and be artists in designing, in composition and decoration, ere they can launch forth as finished architects. Among the average men, 'tis only he who realises he is to the end a student, who will be able to carry on his career with loving affection engendered of knowledge, and thus satisfactorily."

Honours and Appointments.

Miss Emily Penrose, daughter of the late Mr. Penrose, Past President R.I.B.A., has been appointed Principal of Somerville College, Oxford.

Mr. Reginald Blomfield, A.R.A., has been elected Hon. Fellow of Exeter College.

Sir Aston Webb, R.A. [F.], has been reappointed representative of the R.I.B.A. on the Court of Governors of the University of Sheffield.

At the Milan Exhibition a Gold Medal was awarded Mr. H. Percy Adams [F.] for his architectural works. The similar award to Mr. Edwin T. Hall [F.] was noted in the last number.—Mr. Alfred East, A.R.A. [H.A.], received a Diplôme d'Honneur in the section of Painting, &c.

On the Art Standing Committee Mr. W. A. Forsyth [F.] is acting as Joint Hon. Secretary with Mr. James S. Gibson [F.] in place of Mr. W. D. Caroe [F.], resigned.

Need for Efficient Fire-extinguishing Apparatus in our National Monuments.

Colonel Eustace Balfour, F.S.A. [F.], writing to *The Times* re the Selby Abbey fire, urges the importance of providing efficient apparatus for fire-extinguishing in parish churches. "The ordinary public," he says, "does not fully realise that, next to a bonfire, an organ is the most inflammable creation of man's handicraft. People think of it as a thing composed of metal pipes, such as are exhibited in its front. As a matter of fact, it is entirely of wood, in thin pieces, and connected up by wooden rods, called trackers, of the lightest possible construction. In order to tune the pipes, or repair the machinery, a man has to go in with a lighted candle. In addition to this, the organ is generally placed in contact with the woodwork usually found in chancels." He adds that in all his experience of visiting churches he has never yet seen proper provision made for extinguishing fire. The problems of the provision of fire-extinguishing apparatus will differ in each village, but they are always solvable. The worst case is where the water supply of a village is drawn from deep wells by hand windlasses. In this case water storage in the church itself, both in hand buckets and a cistern, is clearly the proper method. In the most

favourable case one may find that there is a natural pressure sufficient to reach the roof. Then properly adjusted hydrants will meet the case.

The Dean and Chapter of York have, since the fire at Selby, revised the rules to be adopted by the officials in case of fire. Canvas hose has been entirely substituted for the old leather hose which has become old and worn. Additional hydrants have been placed in the north transept and engine-house, and chemical extinguishers in the organ-loft and Bible Library. A ground plan has been prepared showing the exact position of each hydrant within and without the minster.

The late C. L. Eastlake.

The death is announced of Mr. Charles Locke Eastlake, late Keeper of the National Gallery. Mr. Eastlake was the predecessor of the late Mr. W. H. White in the Secretaryship of the Institute, resigning in 1878, on being appointed to the National Gallery. The funeral will take place at Kensal Green at 11.30 Monday 26th November.

GOTHIC ARCHITECTURE IN ENGLAND

[ante, p. 16.]

From Mr. FRANCIS BOND, M.A. [H.A.]—

The question of the origin of the Flamboyant style in France is sufficiently interesting to demand more precise information than has yet been given. Two hypotheses have been brought forward. One is that of M. Enlart, which has been stated at length in a recent number of the *Archæological Journal*, and which I have accepted in *Gothic Architecture in England*, pp. 128-132. The other is that of Mr. Prior, whose statements on pp. 332, 333 of his *History of Gothic Art in England* may be reduced to two: (1) the first is, that the Flamboyant style appeared first in Brittany and then passed through Normandy to Paris. This is the very reverse of the truth. If it were true, it would mean that Brittany was the most advanced province in France in the days of the later Gothic. M. Camille Enlart says: "En Bretagne je ne connais pas d'édifice en avance." It was not the late Gothic of Brittany which influenced that of Normandy, but the reverse. "So far from the English style having passed from Brittany to Normandy, so as to give Normandy its Flamboyant, the influence is rather the reverse; and Brittany, long refractory to the Flamboyant style, perpetuated in the fifteenth century the forms of the fourteenth." The above is translated from a letter from M. Enlart which is at Mr. Prior's service. So much for the first part of Mr. Prior's hypothesis. (2) Secondly, in his book as above,* and on

* "During the fourteenth century Brittany would seem, architecturally, a province of western England," p. 332. "The fourteenth century became the golden age of Breton building," p. 333 of *History of Gothic Art in England*.

p. 538 of the JOURNAL, he tells us that the date of Flamboyant architecture in Brittany is the fourteenth century, and among typical examples of this fourteenth-century Flamboyant he instanced the Kreiszer and the choirs of St. Pol, Folgoët, and Lamballe.* On p. 528 of the JOURNAL I pointed out that the dates of these churches were of the fifteenth, not of the fourteenth, century, quoting them from M. Enlart's *Manuel*. To this Mr. Prior made the astounding reply that M. Enlart's dates were not to be regarded as "chronologies," but as "mere summary notes or parenthetical indications" (I am quoting his exact words). If so, of course I had no case. But it is not so: M. Enlart tells me that his dates are, as often as possible, derived from documents; and he forwards me a list of the dates of some of the more important churches of Brittany, with the sources of their history. They will be of such value to all who are interested in Brittany or in French Flamboyant that I have translated them *in extenso*.

Le Kreiszer.—I had said (JOURNAL, p. 528) that this was partly 1366-1399 and partly fifteenth century. M. Enlart now revises the former date. "The date of the Kreiszer is known from the legend of S. Guevroë (Bréviaire de Léon: *Propre des saints du diocèse*, 17 février). The chapel was founded by Duke Jean IV., who reigned from 1341 to 1399. From other sources it is known that it was finished by Duke Jean V., who reigned from 1399 to 1442." As it was not finished probably till the early part of the fifteenth century, it is not likely that it was begun before the closing years of the fourteenth. "See *Description*, by the Marquis de Coëtlogon, 1851; and *Origine de la ville de St.-Pol de Léon et description de son église de Kreiszer*, par Paul de Courcy, 1860; and *Archives de la Commission des Monuments historiques*, nouvelle série, part 5, plate 56; and *Architecture bretonne*, par Abbé Abgrall, 1904, p. 45.

Cathédrale de Saint-Pol de Léon.—Its dates are well known, generally from the *Gallia Christiana*. M. Anthyme St. Paul gives for the choir the date of 1431 to 1450 in Joanne's *Dictionnaire de la France*; and it is known that Bishop Jean Validre obtained in 1431 a sum of 12,000 livres for the building of this choir. See *Gallia Christiana*, vol. xi., col. 644-646; *La Cathédrale de Saint-Pol*, by Peyron, Quimper, 1901; and *Origine de la ville*, by Paul de Courcy, 1860."

Le Folgoët.—The church was begun in 1365; the choir was begun in 1409; there was a consecration in 1419. In 1422-1424 Duke Jean V. installed a college of canons in this church; the dual ordinance is preserved which institutes them, and on the tympanum of the doorway is the inscription: 'John, the most illustrious duke of the

Bretons, founded this college, A.D. 1423.' See *Congrès archéologique de France, 1896; Excursion* p. 110; *Notice* by Abbé de l'Orme, p. 211. There are other notices by Marquis de Coëtlogon, Brest, 1852; Paul de Courcy, 1849; P. and H. de Courcy, 1850; Miorcoë de Kerdanet, 1853; and Abbé Abgrall, *Architecture bretonne*, pp. 47-55."

Lamballe.—It is the choir of the Church of S. Jean which dates from 1420 to 1465, according to M. Anthyme St. Paul; see *Guide Joanne* for Brittany, p. 88, and Joanne's *Dictionnaire de la France*. Other parts are more ancient; the holy-water stoup is dated 1415. The choir of Notre Dame, Lamballe, was commenced in 1371, as we learn from a chart of Duc Charles de Blois of this date." See *Notions historiques et archéologiques sur la ville de Lamballe*, by Guernest: Saint-Brieuc, 1888.

From the above it may, I think, be fairly agreed that the chronologies which I quoted are a good deal more than "parenthetical indications." I feel sure that if Mr. Prior will study the dates of such other churches in Brittany as are of Flamboyant character, he will find in every one of these also it is impossible for any to have been built before the fifteenth, or at any rate before the closing years of the fourteenth, century.

In concluding what I have to say on this point let me add that I recognise as cheerfully as M. Enlart does in his letter to me that Mr. Prior in 1900 signalled the origin of a part of French architecture. But his hypothesis was discredited at the outset, partly by being based on impossible chronologies—I cannot conceive how a practising architect, who had inspected the buildings in person, should be unable to distinguish between the fourteenth and fifteenth century work of France—partly by his inversion of the whole direction of the current of late Gothic in the west of France, the movement being made to start from Brittany and proceed eastward, instead of the reverse.

MINUTES. II.

At the Second General Meeting (Ordinary) of the Session 1906-07, held Monday, 19th November 1906, at 8 p.m.—Present: Mr. Henry T. Hare, *Vice-President*, in the Chair; 30 Fellows (including 9 members of the Council), 33 Associates (including 1 member of the Council), 3 Hon. Associates, and several visitors: the Minutes of the Meeting held 5th November 1906 were taken as read and signed as correct.

A Paper by Mr. A. E. Henderson, R.B.A., on THE CRESCS (6th Century B.C.) TEMPLE OF ARTEMIS AT EPHESUS, was read by the author and illustrated by photographic lantern slides and drawings.

Some remarks descriptive of the British Museum Excavations at Ephesus were made by Mr. D. G. Hogarth, Director of the Excavations, and Mr. Cecil Smith, LL.D. [H.A.].

A vote of thanks having been passed by acclamation to Mr. Henderson for his Paper, the proceedings closed, and the Meeting separated at 9.50 p.m.

* He does not say whether he means S. Jean or N. Dame, Lamballe.

